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EXAMINER	
SCHNURR, JOHN R	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/666,646	BASAWAPATNA ET AL.	
	Examiner	Art Unit	
	JOHN SCHNURR	2421	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 August 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *30-38,40,43-49,52-54 and 56-67* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *30-38,40,43-49,52-54 and 56-67* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Amendment After Non-Final Rejection filed 08/23/2010. Claims 30-38, 40, 43-49, 52-54 and 56-67 are pending and have been examined.

2. The information disclosure statement (IDS) submitted on 08/23/2010 was considered by the examiner.

Response to Arguments

3. Applicant's arguments filed 08/23/2010 have been fully considered but they are not persuasive.

In response to applicant's argument that Utsumi (US 5,729,281) does not disclose "converting to a predetermined frequency, by one of a plurality of programmable frequency converters in the local service module, the one of the plurality of video channels corresponding to the channel selection request," the examiner respectfully disagrees. Figure 8 of Utsumi clearly shows converting portions 18_1-18_N receiving the frequency-division multiplex signal 4 and frequency-converting the signal 4 into respectively assigned frequencies (col. 11 lines 17-38).

Utsumi further teaches signal 4 is power divided into a plurality of identical multiplexed channel signals prior to being converted (Fig. 8) and directly converting a video channel from its frequency in the multiplex signal 4 to a predetermined frequency (col. 11 lines 17-38).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims **30-38, 43-49, 52-54 and 57-67** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Utsumi et al. (US 5,729,281)**, herein Utsumi, in view of **Jeffery (US 2002/0007490)** in view of **Land (US Patent 6,848,116)** further in view of **Perlman (US 2002/0091866)**.

Consider **claim 30**, Utsumi clearly teaches a method comprising:

> receiving, at a local service module, one or more multiplexed channel signals from a headend; **(Fig. 2: Selective distribution station 10 receives a plurality of multiplexed video channels from center station 1, column 7 lines 26-29.)**
>
> receiving a channel selection request for one of the plurality of video channels; **(column 7 line 62 to column 8 line 2)**
>
> converting to a predetermined frequency, by one of a plurality of programmable frequency converters in the local service module, the one of the plurality of video channels corresponding to the channel selection request; **(Fig. 8: Converting portion 18_1 converts the requested video channel to a predetermined frequency, column 11 lines 17-38.)**
>
> combining by the local service module, the converted one of the plurality of video channels with at least one other video channel from the one or more multiplexed channel signals into a multiplexed signal for transmission via the cabling. **(Fig. 8: Outputs from the converting portions 18_X are multiplexed and transmitted via transmission line 20, column 11 lines 17-38.)**

However, Utsumi does not explicitly teach receiving, at a neighborhood headend located in a neighborhood, a first input signal from a cable distribution center and

a second input signal from a satellite cable antenna; multiplexing, by the neighborhood headend, one or more of a plurality of video channels received in the first input signal from the cable distribution center and the second input signal from the satellite cable antenna; sending the multiplexed channel signals to a local service module located in the neighborhood and coupled to the neighborhood headend; and a plurality of room interface units coupled to the local service module located at a customer location of the neighborhood, the room interface units transmitting the channel change request upstream via cabling coupled to the local service module.

In an analogous art, Jeffery, clearly teaches receiving, at a neighborhood headend located in a neighborhood, a first input signal from a cable distribution center and a second input signal from a satellite cable antenna **(Fig. 1: The system receives inputs from CATV input 30 and DSS input 40, [0035]-[0036].)**; multiplexing, by the neighborhood headend, one or more of a plurality of video channels received in the first input signal from the cable distribution center and the second input signal from the satellite cable antenna; sending the multiplexed channel signals to a local service module located in the neighborhood and coupled to the neighborhood headend **(Cross point matrix switcher 7 combines the selected video channels and provides the multipexed stream to splice block 5, [0045]-[0047])**; and a plurality of room interface units coupled to the local service module located at a customer location of the neighborhood, the room interface units transmitting the channel change request upstream via cabling coupled to the local service module. **(Fig. 2: Channel change instructions from the interfaces are transmitted via wiring to the splice block 5, [0057].)**

Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to modify the system of Utsumi by receiving, at a neighborhood headend located in a neighborhood, a first input signal from a cable distribution center and a second input signal from a satellite cable antenna; multiplexing, by the neighborhood headend, one or more of a plurality of video channels received in the first input signal from the cable distribution center and the second input signal from the satellite cable antenna; sending the multiplexed channel signals to a local service module located in the neighborhood and coupled to the neighborhood headend; and a plurality of room interface units coupled to the local service module located at a customer location of the neighborhood, the room interface units transmitting the channel change request upstream via cabling coupled to the local service module, as taught by Jeffery, for the benefit of utilizing existing twisted-pair wiring to create an interactive video distribution system ([0008] Jeffery).

Jeffery further teaches providing Internet access to the user interfaces ([0019]). However, the combination of Utsumi and Jeffery fails to disclose providing the bi-

directional communication using input and output diplexers with the video channels to be received by the output diplexer.

In an analogous art, Land, which teaches a system for bi-directional communication in a cable system, clearly teaches: an output diplexer receiving an upstream signal from a user and downstream signal **(Fig. 9: Output diplexer 19, column 3 line 67 to column 4 line 6; column 4 lines 33-36)**; and an input diplexer receiving the upstream signal **(Fig. 9 Input diplexer 26, column 3 line 67 to column 4 line 6; column 4 lines 33-36)** from a frequency converter **(RF modem 25)** and combining the filtered downstream channel signal with the video channels to be received by the output diplexer. **(IE 2 receives television signals and data signals from a headend, Fig. 9 col. 3 lines 9-32. The IE 2 splits the received signal with splitter 22 and uses bypass filter 21 to separate one or more bands from the signal then recombines the signals at combiner 23, col. 4 lines 48-55.)**

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Utsumi in view of Jeffery to include input and output diplexers, as taught by Land, for the benefit of separating the upstream and downstream signals for processing.

However, the combination of Utsumi, Jeffery and Land does not explicitly teach the bi-directional signals being DOCSIS signals and the frequency converter being a DOCSIS frequency converter.

In an analogous art, Perlman, which discloses a system for bi-directional communication in a multimedia system, clearly teaches providing bi-directional signals using DOCSIS **([0023]-[0025])** and frequency converting the upstream DOCSIS signals using a DOCSIS frequency converter **(Fig. 2a modulator 292, [0025])**.

Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to modify the system of Utsumi, Jeffery and Land by utilizing DOCSIS, as taught by Perlman, for the benefit of complying with an established data transmission standard and facilitating the use of standardized data transceiver devices in a cable distribution system.

Consider **claim 31**, Utsumi combined with Jeffery, as in claim 30,clearly teaches converting, to a second predetermined frequency using another one of the plurality of converters, the at least one other video channel from the one or more multiplexed channel signals. **(Each modulating portion 13_X modulates the signal to a different frequency for each subscriber, column 8 lines 37-46 Utsumi.)**

Consider **claim 32**, Utsumi combined with Jeffery, as in claim 30, clearly teaches the video channels of the multiplexed signal are provided to and filtered by a video displaying apparatus coupled to an interface unit located at a customer location. **(The subscriber receiving device 31_1 receives the multiplexed signal and filters out the frequency, f_1, for which it is assigned, column 8 lines 41-43 Utsumi.)**

Consider **claim 33**, Utsumi combined with Jeffery, as in claim 30, clearly teaches prior to converting to the predetermined frequency the one of the plurality of video channels, receiving the multiplexed channel signal from a power divider in the local service module, the power divider configured to divide the multiplexed channel signal into a plurality of identical multiplexed channel signals. **(Fig. 8: Converting portions 18_1-18_N each receive a power divided multiplex signal 4.)**

Consider **claim 34**, Utsumi combined with Jeffery, as in claim 30, clearly teaches the channel selection request identifies a customer each of the plurality of programmable frequency converters is controllable by a microprocessor, the programmable frequency converter configured to directly convert without demodulation and remodulation of a signal, a video channel selected by the microprocessor from its frequency in the multiplexed channel signal to a predetermined fixed frequency at a frequency location that is assigned to a particular corresponding room interface unit. **(Fig. 8: Converting portions 18_1-18_N each convert a portion of the modulated multiplex signal to a different frequency, column 11 lines 17-38.)**

Consider **claim 35**, Utsumi combined with Jeffery, as in claim 30, clearly teaches demultiplexing the one or more multiplexed channel signals at the local service module. **(Fig. 3 Demultiplexing portion 11, column 7 lines 39-42 Utsumi)**

Consider **claim 36**, Utsumi combined with Jeffery, as in claim 30, clearly teaches at least one of the one or more multiplexed channel signals includes one or more video channels received from any one or more, or a combination of, the following components of the neighborhood headend: a personal video recorder, a video on demand server, a personal computer, and a forward channel DOCSIS frequency converter. **([0049] Jeffery)**

Consider **claim 37**, Utsumi combined with Jeffery, as in claim 36, clearly teaches the channel selection request includes at least one command to control the video on demand server. **([0049] Jeffery)**

Consider **claim 38**, Utsumi combined with Jeffery, as in claim 30, clearly teaches the predetermined frequency is one of a plurality of predetermined frequencies; and the multiplexed signal is transmitted to a plurality of room interface units,

each unit being associated with one of the plurality of predetermined frequencies. **(Each subscriber device 71 has a corresponding predetermined frequency. The multiplexed signal is transmitted to each subscriber device 71, wherein the device filters the frequency assigned to it, column 8 lines 34-51 Utsumi.)**

Consider **claim 43**, Utsumi combined with Jeffery, as in claim 30, clearly teaches another local service module converts a video channel from the plurality of video channels to the predetermined frequency. **(Fig. 10: The system can employ multiple selective distribution stations, Utsumi.)**

Consider **claim 44**, Utsumi combined with Jeffery, as in claim 30, clearly teaches the local service module utilizes frequencies for the plurality of converters in the local service module that are identical to frequencies utilized by a plurality of converters in the another local service module. **(The modulating portions 13_1 to 13_N in each of the selective distribution stations output frequencies in the range of f_1 to f_N, column 8 lines 11-15 Utsumi.)**

Consider **claim 45**, Utsumi combined with Jeffery, as in claim 30, clearly teaches the channel selection request includes a DOCSIS return channel signal for transmission to the neighborhood headend. **([0023]-[0025] Perlman)**

Consider **claim 46**, Utsumi clearly teaches a local service module, comprising:

> a microprocessor adapted to receive a channel selection request for one of a plurality of video channels; **(Fig. 3: Receiving portion 15 receives channel change requests, column 7 line 62 to column 8 line 2)**
>
> a plurality of programmable frequency converters adapted to convert to a predetermined frequency at least one of the plurality of video channels corresponding to the channel selection request; **(Fig. 8: Converting portions 18_1-18_N convert the requested video channel to a predetermined frequency, column 11 lines 17-38.)**
>
> a combiner adapted to combine the converted one of the plurality of video channels with at least one other video channel into the multiplexed signal. **(Fig. 3: Outputs from the modulating portions 13_X are multiplexed and transmitted via transmission line 20, column 8 lines 37-41.)**

However, Utsumi does not explicitly teach receiving, at a neighborhood headend located in a neighborhood, a first input signal from a cable distribution center and a second input signal from a satellite cable antenna; multiplexing, by the neighborhood headend, one or more of a plurality of video channels received in the first input signal from the cable distribution center and the second input signal

from the satellite cable antenna; sending the multiplexed channel signals to a local service module located in the neighborhood and coupled to the neighborhood headend; and a plurality of room interface units coupled to the local service module located at a customer location of the neighborhood, the room interface units transmitting the channel change request upstream via cabling coupled to the local service module.

In an analogous art, Jeffery, clearly teaches receiving, at a neighborhood headend located in a neighborhood, a first input signal from a cable distribution center and a second input signal from a satellite cable antenna **(Fig. 1: The system receives inputs from CATV input 30 and DSS input 40, [0035]-[0036].)**; multiplexing, by the neighborhood headend, one or more of a plurality of video channels received in the first input signal from the cable distribution center and the second input signal from the satellite cable antenna; sending the multiplexed channel signals to a local service module located in the neighborhood and coupled to the neighborhood headend **(Cross point matrix switcher 7 combines the selected video channels and provides the multipexed stream to splice block 5, [0045]-[0047])**; and a plurality of room interface units coupled to the local service module located at a customer location of the neighborhood, the room interface units transmitting the channel change request upstream via cabling coupled to the local service module. **(Fig. 2: Channel change instructions from the interfaces are transmitted via wiring to the splice block 5, [0057].)**

Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to modify the system of Utsumi by receiving, at a neighborhood headend located in a neighborhood, a first input signal from a cable distribution center and a second input signal from a satellite cable antenna; multiplexing, by the neighborhood headend, one or more of a plurality of video channels received in the first input signal from the cable distribution center and the second input signal from the satellite cable antenna; sending the multiplexed channel signals to a local service module located in the neighborhood and coupled to the neighborhood headend; and a plurality of room interface units coupled to the local service module located at a customer location of the neighborhood, the room interface units transmitting the channel change request upstream via cabling coupled to the local service module, as taught by Jeffery, for the benefit of utilizing existing twisted-pair wiring to create an interactive video distribution system ([0008] Jeffery).

Jeffery further teaches providing Internet access to the user interfaces ([0019]). However, the combination of Utsumi and Jeffery fails to disclose providing the bi-directional communication using input and output diplexers with the video channels to be received by the output diplexer.

In an analogous art, Land, which teaches a system for bi-directional communication in a cable system, clearly teaches: an output diplexer receiving an upstream signal from a user and downstream video signal **(Fig. 9: Output diplexer 19, column 3 line 67 to column 4 line 6; column 4 lines 33-36)**; and an input diplexer receiving the upstream signal **(Fig. 9 Input diplexer 26, column 3 line 67 to column 4 line 6; column 4 lines 33-36)** from a frequency converter **(RF modem 25)** and combining the filtered downstream channel signal with the video channels to be received by the output diplexer. **(IE 2 receives television signals and data signals from a headend, Fig. 9 col. 3 lines 9-32. The IE 2 splits the received signal with splitter 22 and uses bypass filter 21 to separate one or more bands from the signal then recombines the signals at combiner 23, col. 4 lines 48-55.)**

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Utsumi in view of Jeffery to include input and output diplexers, as taught by Land, for the benefit of separating the upstream and downstream signals for processing.

However, the combination of Utsumi, Jeffery and Land does not explicitly teach the bi-directional signals being DOCSIS signals and the frequency converter being a DOCSIS frequency converter.

In an analogous art, Perlman, which discloses a system for bi-directional communication in a multimedia system, clearly teaches providing bi-directional signals using DOCSIS **([0023]-[0025])** and frequency converting the upstream DOCSIS signals using a DOCSIS frequency converter **(Fig. 2a modulator 292, [0025])**.

Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to modify the system of Utsumi, Jeffery and Land by utilizing DOCSIS, as taught by Perlman, for the benefit of complying with an established data transmission standard and facilitating the use of standardized data transceiver devices in a cable distribution system.

Consider **claim 47**, Utsumi combined with Jeffery, as in claim 46, clearly teaches the output diplexer is configured to pass signals having a frequency of lower than 50 MHz to the DOCSIS return channel frequency converter. **(Fig. 5 Out of band signaling is below 50 MHz, col. 3 lines 26-30 Land)**

Consider **claim 48**, Utsumi combined with Jeffery, as in claim 46, clearly teaches the output diplexer is configured to pass signals having a frequency at or above 50 MHz to the plurality of room interface units. **(Fig. 5 col. 1 lines 23-26 Land)**

Consider **claim 49**, Utsumi combined with Jeffery, as in claim 46, clearly teaches at least one of the plurality of converters is a programmable frequency converter. **(Fig. 3 modulating portions 13_1 to 13_N, column 7 lines 45-51 and column 8 lines 29-37 Utsumi)**

Consider **claim 52**, Utsumi combined with Jeffery, as in claim 46, clearly teaches a power divider adapted to divide the multiplexed channel signal into a plurality of identical multiplexed channel signals, one for each of the plurality of converters. **(Fig. 11: The multiplexed signal is divided into multiple multiplexed signals that are transmitted to each of the selective distribution stations Utsumi.)**

Consider **claim 53**, Utsumi clearly teaches a cable distribution system, comprising:

> a plurality of local service modules to receive one or more multiplexed channel signals comprised of one or more video channels, **(Fig. 2: Selective distribution station 10 receives a plurality of multiplexed video channels from center station 1, column 7 lines 26-29.)** each local service module of the plurality of local service modules to convert by a programmable frequency converter one of the one or more video channels in the one or more multiplexed channel signals corresponding to a channel selection request to a predetermined frequency; **(Fig. 8: Converting portions 18_1-18_N converts the requested video channel to a predetermined frequency, column 11 lines 17-38.)**
>
> a plurality of room interface units associated with the plurality of local service modules, each of the plurality of room interface units to receive the multiplexed signal and filtering one of the one or more video channels from the multiplexed signal for a video displaying apparatus. **(The subscriber receiving device 31_1 receives the multiplexed signal and filters out the frequency, f_1, for which it is assigned, column 8 lines 41-43 Utsumi.)**

However, Utsumi does not explicitly teach receiving, at a neighborhood headend located in a neighborhood, a first input signal from a cable distribution center and a second input signal from a satellite cable antenna; multiplexing, by the neighborhood headend, one or more of a plurality of video channels received in the first input signal from the cable distribution center and the second input signal from the satellite cable antenna; sending the multiplexed channel signals to a local service module located in the neighborhood and coupled to the neighborhood headend; and a plurality of room interface units coupled to the local service module located at a customer location of the neighborhood, the

room interface units transmitting the channel change request upstream via cabling coupled to the local service module.

In an analogous art, Jeffery, clearly teaches receiving, at a neighborhood headend located in a neighborhood, a first input signal from a cable distribution center and a second input signal from a satellite cable antenna **(Fig. 1: The system receives inputs from CATV input 30 and DSS input 40, [0035]-[0036].)**; multiplexing, by the neighborhood headend, one or more of a plurality of video channels received in the first input signal from the cable distribution center and the second input signal from the satellite cable antenna; sending the multiplexed channel signals to a local service module located in the neighborhood and coupled to the neighborhood headend **(Cross point matrix switcher 7 combines the selected video channels and provides the multipexed stream to splice block 5, [0045]-[0047])**; and a plurality of room interface units coupled to the local service module located at a customer location of the neighborhood, the room interface units transmitting the channel change request upstream via cabling coupled to the local service module. **(Fig. 2: Channel change instructions from the interfaces are transmitted via wiring to the splice block 5, [0057].)**

Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to modify the system of Utsumi by receiving, at a neighborhood headend located in a neighborhood, a first input signal from a cable distribution center and a second input signal from a satellite cable antenna; multiplexing, by the neighborhood headend, one or more of a plurality of video channels received in the first input signal from the cable distribution center and the second input signal from the satellite cable antenna; sending the multiplexed channel signals to a local service module located in the neighborhood and coupled to the neighborhood headend; and a plurality of room interface units coupled to the local service module located at a customer location of the neighborhood, the room interface units transmitting the channel change request upstream via cabling coupled to the local service module, as taught by Jeffery, for the benefit of utilizing existing twisted-pair wiring to create an interactive video distribution system ([0008] Jeffery).

Jeffery further teaches providing Internet access to the user interfaces ([0019]). However, the combination of Utsumi and Jeffery fails to disclose providing the bi-directional communication using input and output diplexers with the video channels to be received by the output diplexer.

In an analogous art, Land, which teaches a system for bi-directional communication in a cable system, clearly teaches: an output diplexer receiving an upstream signal from a user and downstream video signal **(Fig. 9: Output diplexer 19, column 3 line 67 to column 4 line 6; column 4 lines 33-36)**; and

an input diplexer receiving the upstream signal **(Fig. 9 Input diplexer 26, column 3 line 67 to column 4 line 6; column 4 lines 33-36)** from a frequency converter **(RF modem 25)** and combining the filtered downstream channel signal with the video channels to be received by the output diplexer. **(IE 2 receives television signals and data signals from a headend, Fig. 9 col. 3 lines 9-32. The IE 2 splits the received signal with splitter 22 and uses bypass filter 21 to separate one or more bands from the signal then recombines the signals at combiner 23, col. 4 lines 48-55.)**

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Utsumi in view of Jeffery to include input and output diplexers, as taught by Land, for the benefit of separating the upstream and downstream signals for processing.

However, the combination of Utsumi, Jeffery and Land does not explicitly teach the bi-directional signals being DOCSIS signals and the frequency converter being a DOCSIS frequency converter.

In an analogous art, Perlman, which discloses a system for bi-directional communication in a multimedia system, clearly teaches providing bi-directional signals using DOCSIS **([0023]-[0025])** and frequency converting the upstream DOCSIS signals using a DOCSIS frequency converter **(Fig. 2a modulator 292, [0025])**.

Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to modify the system of Utsumi, Jeffery and Land by utilizing DOCSIS, as taught by Perlman, for the benefit of complying with an established data transmission standard and facilitating the use of standardized data transceiver devices in a cable distribution system.

Consider **claim 54**, Utsumi combined with Jeffery, as in claim 53, clearly teaches the neighborhood headend is further configured to receive signals from a satellite delivery and transportation system. **([0036] Jeffery)**

Consider **claim 57**, Utsumi combined with Jeffery, as in claim 53, clearly teaches the neighborhood headend is remote from a cable distribution center headend. **([0035] Jeffery)**

Consider **claim 64**, Utsumi clearly teaches a local service module for use in a neighborhood, comprising:

> a microprocessor adapted to receive a channel selection request from one of a plurality of room interface units, the one of the plurality of room

interface units configured to transmit the channel selection request upstream to the local service module, **(Fig. 3: Receiving portion 15 receives channel change requests, column 7 line 62 to column 8 line 2)**

a plurality of programmable frequency converters adapted to convert to a predetermined frequency, at least one of the plurality of video channels corresponding to the channel selection request; **(Fig. 8: Converting portions 18_1-18_N convert the requested video channel to a predetermined frequency, column 11 lines 17-38.)**

a combiner adapted to combine the converted one of the plurality of video channels with at least one other video channel into the multiplexed signal, **(Fig. 3: Outputs from the modulating portions 13_X are multiplexed and transmitted via transmission line 20, column 8 lines 37-41.)**

However, Utsumi does not explicitly teach receiving, at a neighborhood headend located in a neighborhood, a first input signal from a cable distribution center and a second input signal from a satellite cable antenna; multiplexing, by the neighborhood headend, one or more of a plurality of video channels received in the first input signal from the cable distribution center and the second input signal from the satellite cable antenna; sending the multiplexed channel signals to a local service module located in the neighborhood and coupled to the neighborhood headend; and a plurality of room interface units coupled to the local service module located at a customer location of the neighborhood, the room interface units transmitting the channel change request upstream via cabling coupled to the local service module.

In an analogous art, Jeffery, clearly teaches receiving, at a neighborhood headend located in a neighborhood, a first input signal from a cable distribution center and a second input signal from a satellite cable antenna **(Fig. 1: The system receives inputs from CATV input 30 and DSS input 40, [0035]-[0036].)**; multiplexing, by the neighborhood headend, one or more of a plurality of video channels received in the first input signal from the cable distribution center and the second input signal from the satellite cable antenna; sending the multiplexed channel signals to a local service module located in the neighborhood and coupled to the neighborhood headend **(Cross point matrix switcher 7 combines the selected video channels and provides the multipexed stream to splice block 5, [0045]-[0047])**; and a plurality of room interface units coupled to the local service module located at a customer location of the neighborhood, the room interface units transmitting the channel change request upstream via cabling coupled to the local service module. **(Fig. 2: Channel change instructions from the interfaces are transmitted via wiring to the splice block 5, [0057].)**

Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to modify the system of Utsumi by receiving, at a neighborhood headend located in a neighborhood, a first input signal from a cable distribution center and a second input signal from a satellite cable antenna; multiplexing, by the neighborhood headend, one or more of a plurality of video channels received in the first input signal from the cable distribution center and the second input signal from the satellite cable antenna; sending the multiplexed channel signals to a local service module located in the neighborhood and coupled to the neighborhood headend; and a plurality of room interface units coupled to the local service module located at a customer location of the neighborhood, the room interface units transmitting the channel change request upstream via cabling coupled to the local service module, as taught by Jeffery, for the benefit of utilizing existing twisted-pair wiring to create an interactive video distribution system ([0008] Jeffery).

Jeffery further teaches providing Internet access to the user interfaces ([0019]). However, the combination of Utsumi and Jeffery fails to disclose providing the bi-directional communication using input and output diplexers and filtering, by a bandpass filter, a downstream channel signal and combining the filtered downstream channel signal with the video channels to be received by the output diplexer.

In an analogous art, Land, which teaches a system for bi-directional communication in a cable system, clearly teaches: an output diplexer receiving an upstream signal from a user and downstream video signal **(Fig. 9: Output diplexer 19, column 3 line 67 to column 4 line 6; column 4 lines 33-36)**; and an input diplexer receiving the upstream signal **(Fig. 9 Input diplexer 26, column 3 line 67 to column 4 line 6; column 4 lines 33-36)** from a frequency converter **(RF modem 25)** and filtering, by a bandpass filter, a downstream channel signal and combining the filtered downstream channel signal with the video channels to be received by the output diplexer. **(IE 2 receives television signals and data signals from a headend, Fig. 9 col. 3 lines 9-32. The IE 2 splits the received signal with splitter 22 and uses bypass filter 21 to separate one or more bands from the signal then recombines the signals at combiner 23, col. 4 lines 48-55.)**

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Utsumi in view of Jeffery to include input and output diplexers, as taught by Land, for the benefit of separating the upstream and downstream signals for processing.

However, the combination of Utsumi, Jeffery and Land does not explicitly teach the bi-directional signals being DOCSIS signals and the frequency converter being a DOCSIS frequency converter.

In an analogous art, Perlman, which discloses a system for bi-directional communication in a multimedia system, clearly teaches providing bi-directional signals using DOCSIS **([0023]-[0025])** and frequency converting the upstream DOCSIS signals using a DOCSIS frequency converter **(Fig. 2a modulator 292, [0025])**.

Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to modify the system of Utsumi, Jeffery and Land by utilizing DOCSIS, as taught by Perlman, for the benefit of complying with an established data transmission standard and facilitating the use of standardized data transceiver devices in a cable distribution system.

Consider **claim 65**, Utsumi combined with Jeffery, as in claim 64, clearly teaches the output diplexer is configured to pass signals having a frequency of lower than 50 MHz to the DOCSIS return channel frequency converter. **(Fig. 5 Out of band signaling is below 50 MHz, col. 3 lines 26-30 Land)**

Consider **claim 66**, Utsumi combined with Jeffery, as in claim 64, clearly teaches the output diplexer is configured to pass signals having a frequency at or above 50 MHz to the plurality of room interface units. **(Fig. 5 col. 1 lines 23-26 Land)**

Consider **claim 67**, Utsumi combined with Jeffery, as in claim 64, clearly teaches a power divider adapted to divide the multiplexed channel signal into a plurality of identical multiplexed channel signals, one for each of the plurality of converters. **(Fig. 11: The multiplexed signal is divided into multiple multiplexed signals that are transmitted to each of the selective distribution stations Utsumi.)**

6. Claim **40** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Utsumi et al. (US Patent 5,729,281)** in view **Jeffery (US 2002/0007490)** in view of **Land (US Patent 6,848,116)** further in view of **Perlman (US 2002/0091866)**, as applied to claim 30 above, and further in view of **Kitamura et al. (U.S. 6,188,871)**, herein Kitamura.

Consider **claim 40**, Utsumi combined with Jeffery, as in claim 30, are relied upon as discussed above.

However, Utsumi combined with Jeffery, as in claim 30, do not explicitly teach at least one of the plurality of room interface units includes authorization information that authorizes display of the one of the plurality of channels and the method further comprises: obtaining authorization from the at least one of the plurality of room interface units to convert the one of the plurality of video channels.

In an analogous art, Kitamura, teaches at least one of the plurality of room interface units includes authorization information that authorizes display of the one of the plurality of channels and the method further comprises: obtaining authorization from the at least one of the plurality of room interface units to convert the one of the plurality of video channels. **(Fig. 7 Steps 1-4, column 8 lines 34-63)**

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the headend of Utsumi in view of Jeffery to incorporate a block of personal video recorders, as taught by Kitamura, for the benefit of increasing operator revenues through offering restricted access to premium content for increased subscription fees.

7. Claim **56** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Utsumi et al. (US Patent 5,729,281)** in view of **Jeffery (US 2002/0007490)** in view of **Land (US Patent 6,848,116)** further in view of **Perlman (US 2002/0091866)**, as applied to claim 53 above, and further in view of **Kitamura et al. (U.S. Patent 6,188,871)**, herein Kitamura.

As for **claim 56**, the teachings of Utsumi in view of Jeffery are relied upon as discussed above.

Utsumi in view of Jeffery fails to disclose an associated database in communication with the processor, the database storing customer viewing preferences.

However, Kitamura, in an analogous art, teaches a processor **(Fig.3, CPU 904)** and database **(Fig. 3, Database 111)** in communication with a headend and service module, the processor controlling the operation of receiver/decoders and the database assisting the processor and storing customer viewing preferences **(col. 8, lines 4-9, col. 8, lines 34-51)** for the benefit of enabling a subscriber to receive a desired CATV program
through a simple receiver **(see col. 1, line 65 - col. 2, line 7)**.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the processor of Utsumi in view of Jeffery to incorporate the processor and an associated database in communication with the headend and service module, and the database assisting the processor in this functionality and in storing customer viewing preferences, as taught by Kitamura, for the benefit of enabling a subscriber to receive a desired CATV program through a simple receiver in a cable distribution system.

8. Claim **58** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Jeffery (US 2002/0007490)** in view of **Rakib (US Patent Application Publication 2002/0019984)** further in view of **Land (US Patent 6,848,116)**.

Consider **claim 58**, Jeffery clearly teaches a neighborhood headend comprising:

> receiver/decoder means for receiving a satellite dish signal from a satellite dish antenna and for decoding and outputting in response, a first signal; receiver/decoder means for receiving a cable television signal from a cable distribution center and for decoding and outputting in response, a second signal; **(Fig. 1: The system receives inputs from CATV input 30 and DSS input 40, [0035]-[0036].)**
>
> combiner means for combining first, second and third signals and for outputting a combined signal; **(Cross point matrix switcher 7 combines the selected video channels and provides the multiplexed stream to splice block 5, [0045]-[0047])**
>
> outputting a multiplexed channel signal to a local service module co-located in a neighborhood with the neighborhood headend. **([0050])**

However, Jeffery does not explicitly teach video recorder means for receiving at least one of a satellite dish signal from the satellite antenna and a cable television signal from the cable distribution center and for outputting in response, a selected third signal.

In an analogous art, Rakib, which discloses a system for a video headend, clearly teaches video recorder means for receiving at least one of a satellite dish signal and a cable television signal from the cable distribution center and for outputting in response, a selected second signal. **(Fig. 6 Hard disk array 289, [0096]-[0097])**

Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to modify the system of Jeffery by using video recorder means for receiving at least one of a satellite dish signal and a cable television signal from the cable distribution center and for outputting in response, a selected second signal, as taught by Rakib, for the benefit of reduced consumer costs in the provision of TIVO like functions by utilizing hardware located at a headend in a cable distribution system.

However, Jeffery combined with Rakib does not explicitly teach diplexer means for receiving the combined signal and for outputting in response, a multiplexed channel signal to a local service module co-located in a neighborhood with the neighborhood headend.

In an analogous art, Land, which teaches a system for bi-directional communication in a cable system, clearly teaches diplexer means for receiving the combined signal and for outputting in response, a multiplexed channel signal to a local service module co-located in a neighborhood with the neighborhood headend **(Fig. 9 Input diplexer 26, column 3 line 67 to column 4 line 6; column 4 lines 33-36)**, wherein local service module includes programmable frequency converter means for converting to a predetermined frequency, at least one of a plurality of video channels in the multiplexed channel signal. **(Channel service tuner 16, col. 4 lines 33-48)**

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Jeffery combined with Rakib to include an input diplexer, as taught by Land, for the benefit of separating the input signal into separate frequency bands.

9. Claims **59 and 60** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Jeffery (US 2002/0007490)** in view of **Rakib (US Patent Application Publication 2002/0019984)** further in view of **Land (US Patent 6,848,116)**, as applied to claim 58 above, further in view of **Nikolich (US Patent Application Publication 2002/0073431)**.

Consider **claim 59**, Jeffery combined with Rakib and Land clearly teaches a neighborhood headend.

However, Jeffery combined with Rakib and Land does not explicitly teach personal computer means for receiving an Internet over television signal, the personal computer means also for outputting in response, a third signal to be combined with the first and the second signal by the combiner means.

However, Nikolich, in an analogous art, teaches personal computer means for receiving an Internet over television signal, the personal computer means also for outputting in response, a third signal to be combined with the first and the second signal by the combiner means. **([0027]-[0028])**

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Jeffery combined with Rakib and Land to include personal computer means for receiving an Internet over television signal, the personal computer means also for outputting in response, a third signal to be combined with the first and the second signal by the combiner means, as taught by Nikolich, for the benefit of transmitting downstream internet data to subscribers in compliance with an accepted and widely utilized data transmission standard in a cable distribution system.

Consider **claim 60**, Jeffery combined with Rakib, Land and Nikolich clearly teaches frequency converter means for receiving an Internet connectivity channel and converting the Internet connectivity channel to a predetermined frequency for passage to the combiner means. **([0028] Nikolich)**

10. Claims **61 and 63** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Jeffery (US 2002/0007490)** in view of **Rakib (US Patent Application Publication 2002/0019984)** further in view of **Land (US Patent 6,848,116)**, as applied to claim 58 above, further in view of **Hendricks et al. (US Patent 5,600,364)**, herein Hendricks.

Consider **claim 61**, Jeffery combined with Rakib and Land clearly teaches a neighborhood headend.

However, Jeffery combined with Rakib and Land does not explicitly teach receiver/decoder means comprises a block of separate integrated receiver/decoders (IRDs).

However, Hendricks, in an analogous art, teaches receiver/decoder means comprises a block of separate integrated receiver/decoders (IRDs). **(Fig. 6a IRDs 240, col. 21 lines 38-40)**

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Jeffery combined with Rakib and Land to include receiver/decoder means comprising a block of

separate integrated receiver/decoders (IRDs), as taught by Hendricks, for the benefit of controlling multiple video signals (col. 3 lines 10-12 Hendricks).

Consider **claim 63**, Jeffery combined with Rakib, Land and Hendricks clearly teaches the receiver/decoder means is further for receiving a satellite dish signal. **(col. 3 lines 53-59 Hendricks)**

11. Claim **62** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Jeffery (US 2002/0007490)** in view of **Rakib (US Patent Application Publication 2002/0019984)** further in view of **Land (US Patent 6,848,116)**, as applied to claim 58 above, further in view of **Chen et al. (US Patent 5,699,105)**.

Consider **claim 62**, Jeffery combined with Rakib and Land clearly teaches a neighborhood headend.

However, Jeffery combined with Rakib and Land does not explicitly teach video recorder means is further for receiving a signal from a broadcast television antenna.

However, Chen, in an analogous art, teaches the video recorder means is further for receiving a signal from a broadcast television antenna. **(col. 6 lines 1-4)**

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Jeffery combined with Rakib and Land by receiving a signal from a broadcast television antenna., as taught by Chen, for the benefit of increasing the available programming.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN SCHNURR whose telephone number is (571)270-1458. The examiner can normally be reached on M-F 9a-5p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John W. Miller/
Supervisory Patent Examiner, Art Unit 2421

JRS